

MN 2000
EF 481 0.2

Extension Folder 481—1979
Crop Pest Management Series

Diseases of Potatoes

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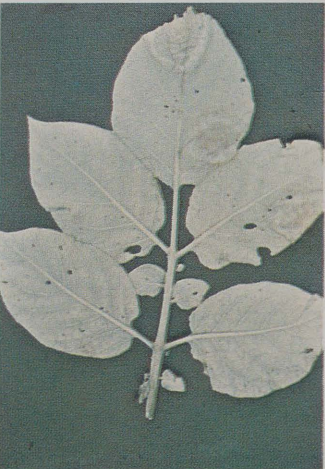
1. Leak, tuber



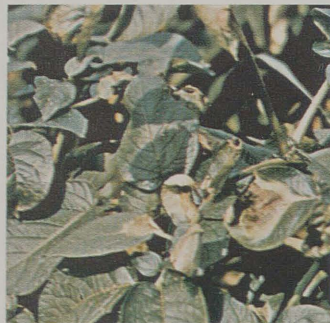
2. Black Scurf, stem



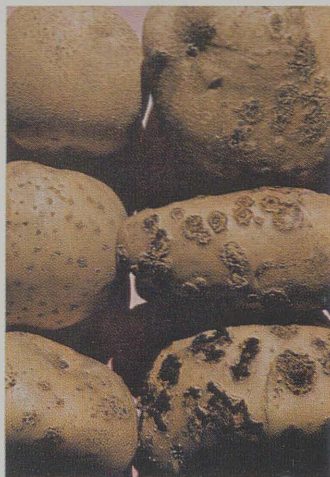
3. Late Blight, leaflet



4. Late Blight, foliage



5. Scab, tuber



6. Silver Scurf, tuber



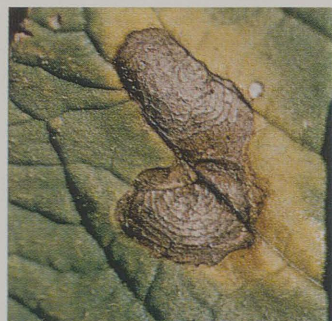
7. Top, Dry rot
Bottom, Wilt.



11. Dry Rot, tuber



12. Early Blight, leaf



8. Blackleg, stem



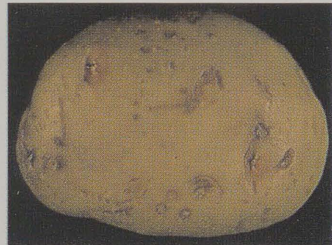
13. Early Blight, foliage



9. Ring Rot, tuber



14. Wilt, tuber



10. Soft Rot, tuber



15. Wilt, foliage





DISEASES

SYMPTOMS

Picture No.	Causal Organism	Seed Piece	Tuber	Stem and Leaves
1	Leak; fungus <i>Pythium debaryanum</i>	Not a seed piece problem	Brown, water-soaked spot occurring near a wound; tuber appears swollen; internal tissues may be yellowed with a brown margin; dessication accompanied by a copious release of water	Not visible
2	Black Scurf; fungus <i>Rhizoctonia solani</i>	Delayed emergence or early killing of plant	Black fungal bodies (sclerotia) are seen on the skin surface	Stem and rhizome brownish to red lesions; lower stem cortex develops cracks and becomes dark in color
3,4	Late Blight; fungus <i>Phytophthora infestans</i>	See tuber, can be a source of inoculum	Reddish brown, purplish brown to black in color; infected area below lesions deeply penetrated by the organism—resulting in rot; skin or lesion may have a "puffy" appearance	Water-soaked green to dark lesions develop on leaflets; spots enlarge to encompass petiole and stems; mycelium growth and sporangia may be seen on lesion border when wet
5	Common Scab; bacteria <i>Streptomyces scabies</i>	See tuber, can be a source of inoculum	Rough, dark, corky spots; varying degrees of expression	Stems and rhizomes are not usually affected
6	Silver Scurf; fungus <i>Helminthosporium solani</i>	See tuber, seed piece in storage can become a source of inoculum	Blotches on skin; blotches darken and appear silvery or tan on red varieties. Symptoms occur after warm storage temperature	Restricted to tubers
7,14, 15	Wilt; fungus <i>Fusarium</i> and <i>Verticillium</i>	See tuber, is source of inoculum in addition to soil	Aerial tubers may form; can be vascular discoloration in stem and in stem end	Leaf yellowing, mottling and bronzing, vascular discoloration, dessication; wilt occurs in warm weather
8	Blackleg; bacteria <i>Erwinia atroseptica</i>	Decay, soft rot of tuber often penetrating from the end of the tuber	May show rot at stem end; soft rot may develop during storage	Black, shiny lower stem; collapse of plant can follow
9	Ring Rot; bacteria <i>Corynebacterium sepedonicum</i>	Similar to tuber	Yellow discoloration of vascular tissue; later the tissue decay separates ring from tuber; exudate is present, squeeze cut tuber for bacterial ooze	Young plants are stunted, wilt during day and recover at night; interveinal area on leaf is chlorotic and becomes necrotic; vascular tissue is discolored and an exudate is present when squeezed from stem
10	Soft Rot; bacteria <i>Erwinia carotovora</i>	Decays tuber, resulting in poor stands	Skin blotches on tubers; wet, slimy, odorous rot of tubers; important in storage in wet conditions; sunken areas around lenticels	Other parts are rarely affected
11	Dry Rot; fungus <i>Fusarium spp.</i>	Tissue dry and powdery, results in poor stands	Whitish to brownish areas may dry to create cavities; sunken areas around lenticels	Not usually affected
12,13	Early Blight; fungus <i>Alternaria solani</i>	See tuber	Brown to purple, slightly sunken areas with a raised well-defined border; a yellow discoloration occurs in the flesh and may surround the decay; can be confused with other diseases.	Dark brown, circular lesions with concentric, target-like rings develop on lower, older leaves and stems; plant may show early aging signs